REMARKS

The Applicants thank the Examiner for the careful examination of this application and respectfully request the entry of the amendments indicated hereinabove.

Claims 13-26 are pending: Claims 13-15, 17, 19, and 22-23 are rejected and Claims 16, 18, 20, and 21 are objected to. The Applicants note that Claims 24-26 are not addressed in the pending Office Action.

The Applicants respectfully traverse the 35 U.S.C. §112, second paragraph rejection of Claim 17 since examples of materials (such as a-SiGe) that may be used as a photon-blocking layer are listed in the Specification on page 5 lines 7-9 and 19-20. The Applicants note that the term "a-Si" is known by one of ordinary skill in the art as standing for "amorphous silicon". This abbreviation is commonly used in published literature, as evidenced by any quick search of the internet.

Independent Claim 13 positively recites that the first region contains diodes and transistors, and a photon-blocking layer is formed on the first region. Claim 13 also positively recites that the second region is formed on the photon-blocking region and the second region contains metal interconnects. These advantageously claimed features are not taught or suggested by the patent granted to Ignaut.

Ignaut teaches away from the advantageously claimed invention because Ignaut teaches the placement of a light shield 60/62 (column 5 lines 66-67) over the passivation layer 50 (column 5 lines 42-43) that in turn is placed over the active portion 32 (column 5 lines 8-19) of the substrate 30 (column 4 line 62). See also FIGS. 2-6 and 7B-7E, column 4 lines 44-47, column 6 lines 57-59, column 8 lines 50-51, column 9 lines 40-43, column 10 lines 1-2 and 16-17, column 11 lines 32-33, column 12 lines 11-13 and 52-58, column 13 lines 25-31. Therefore Ignaut does not teach the placement of the "light barrier/shield" between her "transistors" and "interconnects" (both of which are located in Ignaut's element 32, column 5 line 15) as the Applicants advantageously claim.

Regarding Claims 22-23, the Applicants note that both of these claims are dependent on Claim 13. The Applicants submit that when Claims 22 and 23 are combined with Claim 13, the product/structure specified in the resulting combined claims are in fact patentable distinguishable from the product/structure of Ignaut, as explained above.

Due to the foregoing reasons, the Applicants respectfully traverse the Examiner's rejection of Claim 13 and respectfully assert that Claim 13 is patentable over Ignaut. Furthermore, Claims 14-24 are allowable for depending on allowable independent Claim 13 and, in combination, including limitations not taught or described in the reference of record.

Independent Claim 25 is not rejected in the pending Office Action. The Applicants submit that Claim 25 is patentable because it positively recites a photon-blocking layer formed on a first region, the photon-blocking layer having a direct band gap and a band gap energy less than or equal to 1.7 eV. Furthermore, Claim 26 is also patentable because Claim 26 depends on allowable independent Claim 25 and it contains the additional limitation that the photon-blocking layer is also a contact etch stop layer.

For the reasons stated above, this application is believed to be in condition for allowance. Reexamination and reconsideration is requested.

Respectfully submitted,

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